

**COUNTING ROOM TECHNICIAN
JOB PERFORMANCE MEASURE**

TASK CODE: CRT-C05

TASK: Perform Gamma Spectroscopy Analysis

NAME: _____ **SSN:** _____

REFERENCES:

1. WP 12-RL1330, Gamma Spectral System Operation

TERMINAL OBJECTIVE:

Given a sample requiring gamma spectroscopy, analyze the sample per WP 12RL1330.

CONSEQUENCES OF INADEQUATE PERFORMANCE:

Improper sample analysis
Component damage

HAZARDS (PERSONNEL/EQUIPMENT STATUS):

None

PRE-REQUISITE TRAINING/ TASK COMPLETION:

1. CF 3.00 Series
2. CRT-C02, Perform the Gamma Spectroscopy Quality Control Checks

TOOLS/EQUIPMENT (MATERIALS REQUIRED):

1. Canberra Gamma Spectroscopy Germainium Detector Counting System
2. System Logbook
3. A sample requiring analysis

Instructions to Trainee: You shall acquire the necessary references and equipment, and complete all required documentation. Knowledge requirements shall be completed with 80% or greater accuracy. Critical step performance shall be completed with 100% accuracy.

Instructions to JPM Evaluator: The trainee is to perform the terminal objective, without assistance, on the job site. Provide clarification of requirements if requested by the trainee. You are encouraged to ask relevant questions to verify trainee understanding. If the trainee fails this JPM, clearly document the reason for failure and forward to the trainee's manager. Successful completion of this JPM shall be recorded on the trainee's qualification card.

KNOWLEDGE REQUIREMENTS:

Reference	Knowledge Requirement	Pass/Fail
1	State how to verify a calibration quality control check has satisfactorily been completed.	
1	State how to verify a background quality control check has satisfactorily been completed.	
1	State how to determine if the gamma spectral system is currently calibrated.	
1	Describe the information that must be logged in the system logbook.	
1	Discuss the documentation requirements upon completion of the sample analysis.	
1	Discuss when a spectrum re-analysis would be performed.	
1	State who reviews the results of the analysis.	
1	Discuss how to edit the radionuclide library.	
1	Describe the terms pulse pileup and dead time.	
1	Discuss how to identify unidentified peaks.	
1	Discuss how to determine the appropriate volume of sample	
1	Discuss how to determine the appropriate analysis sequence file	

PERFORMANCE REQUIREMENTS:

Reference	Performance Requirement	Pass/Fail
1	Verify calibration and background quality control checks have been completed within the last 36 hours.#	
1	Verify the gamma spectral system is currently calibrated.#	

1	Operate the VAX computer and establish initial conditions for analyzing a sample.#	
1	Perform analysis of sample.#	
1	Document the completion of the analysis in the system logbook.#	
1	Operate the VAX computer and establish initial conditions for performing re-analysis of the spectrum.#	
1	Perform re-analysis of the spectrum.#	
1	Document the completion of the re-analysis in the system logbook.#	
1	Relinquish analysis results for validation.#	

indicates a critical step

FINAL EVALUATION:

PASS

FAIL

COMMENTS:

EVALUATOR SIGNATURE:

DATE:_____

TRAINEE SIGNATURE:

DATE:_____

MANAGER SIGNATURE:

DATE:_____